

Chapter 7. Science and Technology: Public Attitudes and Public Understanding

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Appendix table 7-1.
Indices of issue interest: 1979-97
 (Mean index scores)

Issue	1979	1981	1983	1985	1988	1990	1992	1995	1997
Foreign policy	49	59	54	59	58	68	62	48	47
New scientific discoveries	61	60	68	66	66	63	61	67	70
New technologies	59	58	65	64	64	64	64	66	69
Space exploration	-	47	50	52	56	50	47	50	55
Energy/nuclear power ^a	67	70	62	61	61	64	57	54	54
Medical discoveries	-	-	-	83	85	83	82	83	83
Environmental issues	-	-	-	-	-	80	77	74	72
Economic policy	59	71	74	69	69	70	74	68	68
Sample size	1,635	3,195	1,631	2,005	2,041	2,033	2,001	2,006	2,000

- = not asked

NOTES: Each index is a summary measure of respondent reports that they are "very interested," "moderately interested," or "not at all interested" in each specific issue. Responses are to the statement: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues, and for each one—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested." The original responses were converted to a 0-100 index by assigning a value of 100 for a "very interested" response and a value of 50 for a "moderately interested" response.

^aIn 1990, 1992, 1995, and 1997 the question was worded "...issues about the use of nuclear energy to generate electricity." From 1979 to 1985, the question was worded "...issues about energy policy." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-1.

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Appendix table 7-2.
Public interest in selected issues: 1979-97
(Percentages)

Issue	1979			1981			1983			1985			1988			1990			1992			1995			1997		
	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI
Foreign policy	22	53	24	35	47	18	30	47	22	33	51	16	33	50	16	48	40	12	38	47	15	21	53	26	22	50	28
New scientific discoveries	36	49	14	37	45	17	48	40	11	44	44	12	43	46	12	39	48	12	36	49	15	44	45	11	49	42	8
New technologies	33	51	15	33	50	16	42	45	12	39	49	12	40	48	12	39	49	12	37	53	10	43	46	27	47	43	10
Space exploration	-	-	-	25	44	31	27	45	28	29	46	25	34	44	22	26	48	26	22	50	28	25	49	26	32	45	22
Energy/nuclear power ^a	46	42	11	50	40	10	39	46	14	36	50	13	38	46	16	42	44	14	32	49	18	29	49	21	29	49	21
Medical discoveries	-	-	-	-	-	-	-	-	-	68	29	3	72	25	3	68	29	3	66	31	3	69	27	4	70	26	4
Environmental issues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	31	5	59	36	5	53	41	6	52	40	8
Economic policy	35	48	17	52	37	10	57	33	10	48	41	11	48	42	10	50	40	10	56	36	8	47	42	11	47	42	11
Sample size	1,635			3,195			1,631			2,005			2,041			2,033			2,001			2,006			2,000		

VI = very interested; MI = moderately interested; NI = not at all interested; - = not asked

NOTES: Responses are to the statement: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues, and for each one—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested." "Don't know" responses are not included. Percentages may not total 100 because of rounding.

^aIn 1990, 1992, 1995, and 1997 the question was worded "...issues about the use of nuclear energy to generate electricity." From 1979 to 1985, the question was worded "...issues about energy policy." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Science & Engineering Indicators – 1998

Appendix table 7-3.

Mean score on indices of interest in scientific and technological issues, by sex and level of education: 1997
(Mean index scores)

Sex and level of education	New scientific discoveries	New technologies	Medical discoveries	Space exploration	Nuclear energy	Environmental issues	Sample size
All adults	70	69	83	55	54	72	2,000
Sex							
Male	71	73	81	63	55	70	930
Female	70	65	86	49	54	75	1,070
Formal education							
Less than high school	61	56	79	42	54	70	420
High school graduate	70	70	85	56	53	73	1,188
Baccalaureate degree	78	75	86	66	58	74	257
Graduate/professional degree	84	80	87	67	62	79	135
Science/mathematics education ^a							
Low	64	62	83	48	51	71	1,112
Middle	75	73	85	58	57	74	509
High	84	81	85	72	61	74	379

NOTES: Each index is a summary measure of respondent reports that they are "very interested," "moderately interested," or "not at all interested" in each specific issue. A value of 100 was assigned to a "very interested" response, and a value of 50 was assigned to a "moderately interested" response.

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-2.

Science & Engineering Indicators – 1998

Appendix table 7-4.
Indices of issue informedness: 1979-97
 (Mean index scores)

Issue	1979	1981	1983	1985	1988	1990	1992	1995	1997
Foreign policy	35	44	40	42	42	51	46	36	36
New scientific discoveries	36	38	40	43	42	42	39	42	49
New technologies	35	35	42	39	38	38	38	40	44
Space exploration	-	37	39	42	39	37	33	33	41
Energy/nuclear power ^a	47	51	47	44	37	37	32	29	31
Medical discoveries	-	-	-	53	52	53	51	52	56
Environmental issues	-	-	-	-	-	60	57	52	51
Economic policy	42	55	54	48	50	53	56	52	51
Sample size	1,635	3,195	1,631	2,005	2,041	2,033	2,001	2,006	2,000

- = not asked

NOTES: Each index is a summary measure of respondent reports that they are "very well-informed," "moderately well-informed," or "poorly informed" about each specific issue. Responses are to the statement: "Now I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well-informed, moderately well-informed, or poorly informed." The original responses were converted to a 0-100 index by assigning a value of 100 for a "very well-informed" response and a value of 50 for a "moderately well-informed" response.

^aIn 1990, 1992, 1995, and 1997 the question was worded "...issues about the use of nuclear energy to generate electricity." From 1979 to 1985, the question was worded "...issues about energy policy." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-3.

Science & Engineering Indicators – 1998

Appendix table 7-5.
Public informedness on selected issues: 1979-97
 (Percentages)

Issue	1979			1981			1983			1985			1988			1990			1992			1995			1997		
	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI
Foreign policy	8	54	37	17	54	28	14	51	35	15	53	32	14	55	31	22	57	22	19	54	26	10	52	37	10	52	38
New scientific discoveries	10	52	37	13	49	38	13	53	34	13	59	27	14	55	31	14	55	31	12	54	34	13	58	29	19	58	23
New technologies	10	50	39	11	48	40	14	55	32	12	54	34	12	51	36	11	53	35	10	56	33	12	55	33	16	56	28
Space exploration	-	-	-	14	46	40	13	52	34	16	52	32	13	52	34	11	51	38	9	48	44	9	48	43	16	50	34
Energy/nuclear power ^a	18	58	23	23	56	21	19	56	24	16	55	29	13	47	39	12	50	38	10	43	46	9	40	51	10	41	49
Medical discoveries	-	-	-	-	-	-	-	-	-	24	57	18	22	59	19	24	57	20	22	58	21	23	57	20	28	56	16
Environmental issues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	55	13	29	56	15	24	56	20	23	55	21
Economic policy	14	55	31	29	51	20	28	52	20	22	51	26	22	55	22	25	55	20	29	54	17	25	53	22	25	51	24
Sample size	1,635				3,195			1,631			2,005			2,041			2,033			2,001			2,006			2,000	

VI = very well-informed; MI = moderately well-informed; NI = poorly informed; - = not asked

NOTES: Responses are to the statement: "Now I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well-informed, moderately well-informed, or poorly informed."
 "Don't know" responses are not included. Percentages may not total 100 because of rounding.

^aIn 1990, 1992, 1995, and 1997 the question was worded "...issues about the use of nuclear energy to generate electricity." From 1979 to 1985, the question was worded "...issues about energy policy." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Science & Engineering Indicators - 1998

Appendix table 7-6.

Mean score on indices of informedness on scientific and technological issues, by sex and level of education: 1997
(Mean index scores)

Sex and level of education	New scientific discoveries	New technologies	Medical discoveries	Space exploration	Nuclear energy	Environmental issues	Sample size
All adults	49	44	56	41	31	51	2,000
Sex							
Male	51	47	52	49	33	52	930
Female	47	41	60	34	28	50	1,070
Formal education							
Less than high school	45	42	58	36	38	54	420
High school graduate	47	43	55	41	28	49	1,188
Baccalaureate degree	55	49	57	46	29	52	257
Graduate/professional degree	60	54	61	50	34	58	135
Science/mathematics education ^a							
Low	44	41	56	37	30	50	1,112
Middle	48	45	54	43	30	53	509
High	63	54	61	53	32	53	379

NOTES: Each index is a summary measure of respondent reports that they are “very well-informed,” “moderately well-informed,” or “poorly informed” about each specific issue. A value of 100 was assigned to a “very well-informed” response, and a value of 50 was assigned to a “moderately well-informed” response.

^aRespondents were classified as having a “high” level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as “middle” if they took six to eight such courses, and as “low” if they took five or fewer.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-2.

Science & Engineering Indicators – 1998

Appendix table 7-7.

Public attentiveness to selected issues: 1979-97
(Percentages)

Issue	1979	1981	1983	1985	1988	1990	1992	1995	1997
Foreign policy									
Attentive public	6	6	8	8	8	14	11	5	5
Interested public	16	29	23	25	25	34	27	16	18
Residual public	78	65	70	67	67	52	62	79	77
New scientific discoveries									
Attentive public	7	9	9	8	8	8	7	7	11
Interested public	29	28	40	36	34	31	29	37	38
Residual public	64	63	52	56	57	61	64	56	51
New inventions & technologies									
Attentive public	6	8	8	8	7	7	6	6	9
Interested public	27	26	34	31	33	32	30	37	38
Residual public	67	67	58	61	60	61	63	57	53
Science and technology policy^a									
Attentive public	9	12	13	12	11	11	10	10	14
Interested public	37	35	48	44	42	40	40	47	46
Residual public	54	54	39	45	46	49	50	43	40
Space exploration									
Attentive public	–	7	7	9	8	6	5	5	8
Interested public	–	18	20	20	26	20	17	20	24
Residual public	–	75	73	71	66	74	78	75	68
Energy/nuclear power^b									
Attentive public	–	–	15	9	8	8	6	4	4
Interested public	–	–	25	28	30	34	26	25	25
Residual public	–	–	61	63	62	58	68	71	71
Medical discoveries									
Attentive public	–	–	–	17	16	16	17	15	19
Interested public	–	–	–	51	56	52	49	53	52
Residual public	–	–	–	32	28	32	34	31	29
Environmental issues									
Attentive public	–	–	–	–	–	20	18	13	12
Interested public	–	–	–	–	–	43	41	40	40
Residual public	–	–	–	–	–	36	41	48	48
Economic policy									
Attentive public	9	12	19	16	15	17	19	15	14
Interested public	26	40	38	32	33	34	38	32	32
Residual public	65	48	43	52	52	50	44	53	54
Sample size	1,635	3,195	1,631	2,005	2,041	2,033	2,001	2,006	2,000

– = not asked

NOTES: Responses are to the statements: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues, and for each one—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested"; "Now I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well-informed, moderately well-informed, or poorly informed"; and "Now let me change the topic slightly and ask you how you get information. First, how often do you read a newspaper: every day, a few times a week, once a week, or less than once a week? Are there any magazines that you read regularly, that is, most of the time? What magazine would that be? Is there another magazine that you read regularly? What magazine would that be?" Percentages may not total 100 because of rounding.

To be classified as attentive to a given issue area, respondents must indicate that they are "very interested" in that area, that they are "very well-informed" about it, and that they regularly read a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well-informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area.

^aThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

^bIn 1990, 1992, 1995, and 1997 the question was worded "...issues about the use of nuclear energy to generate electricity." From 1979 to 1985, the question was worded "...issues about energy policy." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-4.

Science & Engineering Indicators – 1998

Appendix table 7-8.
Public attentiveness to scientific and technological issues, by sex and level of education: 1997
(Percentages)

Sex and level of education	New scientific discoveries		New technologies		Science and technology policy ^a		Medical discoveries		Space exploration		Nuclear energy		Environmental issues		Sample size
	AP	IP	AP	IP	AP	IP	AP	IP	AP	IP	AP	IP	AP	IP	
All adults	11	38	9	38	14	46	19	52	8	24	4	25	12	40	2,000
Sex															
Male	12	39	11	43	16	49	15	51	14	28	5	24	14	35	930
Female	9	38	7	34	13	43	23	53	4	20	3	26	11	45	1,070
Formal education															
Less than high school	9	32	9	25	15	34	21	43	6	18	6	27	10	41	420
High school graduate	9	39	8	40	12	49	16	56	8	24	3	24	11	41	1,188
Baccalaureate degree	15	43	10	46	18	51	24	48	13	30	5	26	16	37	257
Graduate/professional degree	23	47	22	41	30	49	24	51	16	25	8	29	22	40	135
Science/mathematics education^b															
Low	7	34	6	33	10	42	18	51	6	19	3	24	11	41	1,112
Middle	9	43	9	41	14	50	16	57	7	27	6	25	12	41	509
High	22	47	17	47	28	50	25	48	17	34	6	27	17	37	379

AP = attentive public; IP = interested public

NOTES: Responses are to the statements: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues, and for each one—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested"; "Now I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well-informed, moderately well-informed, or poorly informed"; and "Now let me change the topic slightly and ask you how you get information. First, how often do you read a newspaper: every day, a few times a week, once a week, or less than once a week? Are there any magazines that you read regularly, that is, most of the time? What magazine would that be? Is there another magazine that you read regularly? What magazine would that be?"

To be classified as attentive to a given issue area, respondents must indicate that they are "very interested" in that area, that they are "very well-informed" about it, and that they regularly read a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well-informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area.

^aThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

^bRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-5.

Appendix table 7-9.
U.S. public understanding of scientific vocabulary and concepts, by selected characteristics: 1997
 (Percentages)

Characteristic	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	Sample size
All adults	82	71	84	62	39	44	43	32	78	44	93	51	59	75	73	48	22	11	13	11	2,000
Sex																					
Male	89	80	88	54	56	53	36	39	86	50	94	53	67	88	82	58	26	17	16	16	930
Female	76	64	81	69	24	36	49	26	71	38	92	49	53	64	64	40	18	7	11	6	1,070
Formal education																					
Less than high school	75	55	77	41	25	25	20	25	67	38	91	37	44	61	51	29	8	1	5	1	420
High school graduate	82	71	86	66	35	42	43	30	78	40	93	52	61	76	75	49	18	9	12	9	1,188
Baccalaureate degree	88	88	89	72	62	66	64	43	86	55	93	60	69	84	86	62	48	28	25	21	257
Graduate/professional degree	90	92	85	75	68	70	71	49	96	68	96	69	78	90	91	72	49	30	23	33	135
Science/mathematics education ^a																					
Low	76	60	80	57	28	29	33	28	72	38	92	42	54	67	62	35	9	3	9	4	1,112
Middle	86	78	91	64	40	49	47	30	80	41	92	58	61	81	81	56	25	12	12	11	509
High	93	94	87	77	70	79	67	45	92	64	96	68	73	89	93	77	56	36	27	31	379
Attentiveness to science and technology ^b																					
Attentive public	89	86	89	61	56	56	49	45	87	63	94	59	66	78	85	66	36	21	23	23	288
Interested public	85	75	84	66	43	49	47	34	81	46	93	54	64	78	76	51	25	14	14	11	918
Residual public	75	61	82	58	27	33	36	25	71	35	92	45	52	70	64	39	13	5	8	6	794

NOTE: Understanding is determined by correct responses to the following statements:

A = "The center of the earth is very hot." (True); B = "All radioactivity is man-made." (False); C = "The oxygen we breathe comes from plants." (True); D = "It is the father's gene which decides whether the baby is a boy or a girl." (True); E = "Lasers work by focusing soundwaves." (False); F = "Electrons are smaller than atoms." (True); G = "Antibiotics kill viruses as well as bacteria." (False); H = "The universe began with a huge explosion." (True); I = "The continents on which we live have been moving their location for millions of years and will continue to move in the future." (True); J = "Human beings, as we know them today, developed from earlier species of animals." (True); K = "Cigarette smoking causes lung cancer." (True); L = "The earliest humans lived at the same time as the dinosaurs." (False); M = "Radioactive milk can be made safe by boiling it." (False); N = "Which travels faster: light or sound?" (Light); O = "Does the earth go around the sun, or does the sun go around the earth?" (earth around the sun); P = "How long does it take for the earth to go around the sun: one day, one month, or one year?" (One year); Q = "Please tell me, in your own words, what is DNA?"; R = "Please tell me, in your own words, what is a molecule?"; S = "Please tell me, in your own words, what is the Internet?"; T = "Please tell me, in your own words, what is radiation?"

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-6.

Science & Engineering Indicators – 1998

Appendix table 7-10.

Mean score on Index of Scientific Construct Understanding, by selected characteristics: 1997
(Mean index scores)

Characteristic	Mean score
All adults	55
Sex	
Male	62
Female	49
Formal education	
Less than high school	44
High school graduate	54
Baccalaureate degree	68
Graduate/professional degree	72
Science/mathematics education ^a	
Low	47
Middle	58
High	74
Attentiveness to science and technology ^b	
Attentive public	65
Interested public	58
Residual public	48

NOTE: The Index of Scientific Construct Understanding is a composite measure of the public understanding of scientific terms and concepts. In 1997, this measure included responses to the following true/false questions: "All radioactivity is man-made"; "Electrons are smaller than atoms"; "The earliest humans lived at the same time as the dinosaurs"; and "The continents on which we live have been moving their location for millions of years and will continue to move in the future." The following short-answer items were also included: "Which travels faster: light or sound?"; "Does the earth go around the sun, or does the sun go around the earth?"; and "How long does it take for the earth to go around the sun: one day, one month, or one year?" Coded verbatim responses to the following open-ended questions were also included: "Please tell me, in your own words, what is DNA?"; "Please tell me, in your own words, what is a molecule?"; and "Please tell me, in your own words, what is radiation?"

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Science & Engineering Indicators – 1998

Appendix table 7-11.

Public understanding of the nature of scientific inquiry, by selected characteristics: 1997
(Percentages)

Characteristic	Percentage
All adults	27
Sex	
Male	29
Female	25
Formal education	
Less than high school	8
High school graduate	27
Baccalaureate degree	46
Graduate/professional degree	54
Science/mathematics education ^a	
Low	16
Middle	30
High	55
Attentiveness to science and technology ^b	
Attentive public	35
Interested public	31
Residual public	20

NOTE: Responses are to the following questions: "Now, think about this situation. A doctor tells a couple that their *genetic makeup* means that they've got *one in four chances* of having a child with an inherited illness. Does this mean that if their first three children are healthy, the fourth will have the illness? Does this mean that if their first child has the illness, the next three will not? Does this mean that each of the couple's children will have the same risk of suffering from the illness? Does this mean that if they have only three children, none will have the illness?" "Now, let me turn to a slightly different type of question. When you read news stories, you see certain sets of words and terms. We are interested in how many people recognize certain kinds of terms, and I would like to ask you a few brief questions in that regard. First, some articles refer to the results of a scientific study. When you read or hear the term 'scientific study,' do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means? (*if clear understanding or general sense*): In your own words, could you tell me what it means to study something scientifically?" "Now, please think about this situation. Two scientists want to know if a certain drug is effective against high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many of them experience lower blood pressure. The second scientist wants to give the drug to 500 people with high blood pressure, and not give the drug to another 500 people with high blood pressure, and see how many in both groups experience lower blood pressure levels. Which is the better way to test this drug? Why is it better to test the drug this way?"

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-9.

Science & Engineering Indicators – 1998

Appendix table 7-12.

**Mean score on Index of Scientific Construct
Understanding in 14 industrialized nations: Most recent year**

Country (year)	Mean index score	Sample size
United States (1997)	55	2,000
United States (1995)	55	2,000
United States (1990)	54	2,033
Denmark (1992)	55	1,000
The Netherlands (1992)	54	1,000
Great Britain (1992)	53	1,000
France (1992)	52	1,000
Germany (1992)	51	2,000
Belgium (1992)	49	1,000
Italy (1992)	47	1,000
Canada (1989)	46	2,000
Spain (1992)	45	1,000
Ireland (1992)	42	1,000
Greece (1992)	37	1,000
Japan (1991)	36	1,457
Portugal (1992)	33	1,000

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); J.D. Miller, "Public Understanding of Science and Technology in OECD Countries: A Comparative Analysis," paper presented to the 1996 OECD Symposium on Public Understanding of Science and Technology, Tokyo; and J.D. Miller, R. Pardo, and F. Niwa, *Public Attitudes Toward Science and Technology: A Comparative Study of the European Union, the United States, Japan, and Canada* (Madrid: BBV Foundation, 1997).

See figure 7-10.

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Appendix table 7-13.

General attitudes toward science and technology, by selected characteristics: 1992, 1995, and 1997
(Mean index scores)

Characteristic	1992			1995			1997		
	P ^a	R ^b	P/R	P ^a	R ^b	P/R	P ^a	R ^b	P/R
All adults	67	38	1.76	68	39	1.74	70	37	1.89
Sex									
Male	68	39	1.74	69	38	1.82	71	35	2.03
Female	67	38	1.76	67	40	1.68	69	39	1.77
Formal education									
Less than high school	64	49	1.31	63	51	1.24	69	45	1.53
High school graduate	67	39	1.72	68	39	1.74	69	38	1.82
Baccalaureate degree	70	27	2.59	71	29	2.45	74	28	2.64
Graduate/professional degree	71	24	2.96	73	24	3.04	75	24	3.13
Science/mathematics education ^c									
Low	66	43	1.53	67	44	1.52	69	42	1.64
Middle	67	38	1.76	69	35	1.97	71	34	2.09
High	71	24	2.96	71	28	2.54	75	27	2.78
Attentiveness to science and technology ^d									
Attentive public	71	36	1.97	74	30	2.47	75	30	2.50
Interested public	70	36	1.94	69	38	1.82	73	35	2.09
Residual public	65	41	1.59	65	42	1.55	66	43	1.54

P = Index of Scientific Promise; R = Index of Scientific Reservations; P/R = ratio of scores on the two indices

^aThe Index of Scientific Promise includes responses to the following statements: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or strongly disagree. First, science and technology are making our lives healthier, easier, and more comfortable—do you strongly agree, agree, disagree, or strongly disagree? Most scientists want to work on things that will make life better for the average person—do you strongly agree, agree, disagree, or strongly disagree? With the application of science and new technology, work will become more interesting—do you strongly agree, agree, disagree, or strongly disagree? Because of science and technology, there will be more opportunities for the next generation—do you strongly agree, agree, disagree, or strongly disagree?"

^bThe Index of Scientific Reservations includes responses to the following statements: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or strongly disagree. We depend too much on science and not enough on faith—do you strongly agree, agree, disagree, or strongly disagree? It is not important for me to know about science in my daily life—do you strongly agree, agree, disagree, or strongly disagree? Science makes our way of life change too fast—do you strongly agree, agree, disagree, or strongly disagree? Now for a different type of question. People have frequently noted that scientific research has produced both beneficial and harmful consequences. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits? (*if benefits greater*): Would you say that the balance has been strongly in favor of beneficial results, or only slightly? (*if harms greater*): Would you say that the balance has been strongly in favor of harmful results, or only slightly?"

^cRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

^dThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Appendix table 7-14.

Responses to items in the Index of Scientific Promise and the Index of Scientific Reservations: 1997
(Percentages)

Item	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
Index of Scientific Promise					
Science and technology are making our lives healthier, easier, and more comfortable	29	60	2	7	2
Most scientists want to work on things that will make life better for the average person	11	68	4	15	2
With the application of science and new technology, work will become more interesting	9	63	6	21	1
Because of science and technology, there will be more opportunities for the next generation	13	68	4	14	1
Index of Scientific Reservations					
We depend too much on science and not enough on faith	12	35	6	39	8
It is not important for me to know about science in my daily life	2	12	1	58	27
Science makes our way of life change too fast	4	32	2	55	6
	B>>H	B>H	B=H	H>B	H>>B
Have the benefits of scientific research outweighed the harmful results or have the harmful results outweighed the benefits?	47	28	13	8	4

B>>H = benefits strongly outweigh the harmful results; B>H = benefits outweigh the harmful results; B=H = benefits equal the harmful results; H>B = harmful results outweigh the benefits; H>>B = harmful results strongly outweigh the benefits

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Appendix table 7-15.

Responses to and mean scores on the Attitude Toward Organized Science Scale, by selected characteristics: 1983-97

Response and characteristic	1983	1985	1988	1990	1992	1995	1997
Percentage of the public							
Agree that “science and technology are making our lives healthier easier, and more comfortable”	84	86	87	84	85	86	89
Agree that “the benefits of science are greater than any harmful effects”	57	68	76	72	73	72	75
Disagree that “science makes our way of life change too fast”	50	53	59	60	63	60	61
Disagree that “we depend too much on science and not enough on faith”	43	39	43	44	45	44	48
Mean ATOSS score							
All adults	2.3	2.5	2.7	2.6	2.7	2.6	2.7
Sex							
Male	2.2	2.4	2.6	2.5	2.7	2.7	2.9
Female	2.5	2.6	2.8	2.8	2.6	2.5	2.6
Formal education							
Less than high school	1.8	1.8	2.2	1.8	2.0	2.0	2.2
High school graduate	2.4	2.6	2.8	2.7	2.7	2.6	2.7
Baccalaureate degree	2.9	3.1	3.2	3.1	3.3	3.3	3.2
Graduate/professional degree	2.9	3.1	3.1	3.2	3.3	3.4	3.4
Science/mathematics education ^a							
Low	NA	NA	NA	2.4	2.5	2.3	2.5
Middle	NA	NA	NA	2.9	2.7	2.9	2.9
High	NA	NA	NA	3.3	3.3	3.2	3.3
Attentiveness to science and technology ^b							
Attentive public	2.6	2.8	3.0	2.8	2.9	3.1	3.0
Interested public	2.4	2.6	2.8	2.7	2.8	2.7	2.9
Residual public	2.1	2.3	2.5	2.5	2.5	2.4	2.4
Sample size	1,631	2,005	2,041	2,033	997	2,006	2,000

ATOSS = Attitude Toward Organized Science Scale; NA = not available

NOTES: Responses are to the following statement: “Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or strongly disagree.” The scale is a count of agreement with the first two items and disagreement with the second two items.

^aRespondents were classified as having a “high” level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as “middle” if they took six to eight such courses, and as “low” if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Appendix table 7-16.

General attitudes toward science and technology in 14 industrialized nations: Most recent year
(Mean index scores)

Country (year)	Index of Scientific Promise	Index of Scientific Reservation	Ratio of indices
United States (1997)	70	37	1.89
United States (1995)	68	39	1.74
United States (1992)	67	38	1.76
Canada (1989)	72	56	1.29
Italy (1992)	69	54	1.28
Ireland (1992)	69	55	1.26
Great Britain (1992)	68	56	1.21
France (1992)	68	56	1.21
Belgium (1992)	64	54	1.19
Denmark (1992)	72	61	1.18
The Netherlands (1992)	69	59	1.17
Germany (1992)	70	60	1.17
Spain (1992)	71	62	1.15
Portugal (1992)	71	67	1.06
Greece (1992)	75	74	1.01
Japan (1991)	55	56	0.98

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); unpublished tabulations; and J. D. Miller, R. Pardo, and F. Niwa, *Public Attitudes Toward Science and Technology: A Comparative Study of the European Union, the United States, Japan, and Canada* (Madrid: BBV Foundation, 1997).

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Appendix table 7-17.

Public assessments of funding of scientific research by the Federal Government, by selected characteristics: 1985-97
(Percentages)

Characteristic	1985	1988	1990	1992	1995	1997
All adults						
Strongly agree	9	16	17	14	19	22
Agree	70	65	62	63	61	57
Don't know	5	4	4	3	3	3
Disagree	16	14	15	18	17	15
Strongly disagree	0	1	2	2	2	3
Male						
Strongly agree	11	20	23	17	19	24
Agree	71	63	60	62	60	54
Don't know	2	2	2	2	2	3
Disagree	15	13	13	17	18	16
Strongly disagree	1	2	2	2	1	3
Female						
Strongly agree	8	11	13	11	15	20
Agree	68	68	65	64	62	59
Don't know	8	6	5	4	5	4
Disagree	16	14	16	19	16	15
Strongly disagree	0	1	1	2	2	2
Less than high school graduate						
Strongly agree	5	6	10	10	8	20
Agree	65	66	59	61	59	50
Don't know	9	7	8	5	7	5
Disagree	21	18	20	21	24	22
Strongly disagree	0	3	3	3	2	3
High school graduate						
Strongly agree	8	17	18	12	16	19
Agree	72	66	65	64	63	60
Don't know	4	3	2	3	3	3
Disagree	15	13	14	19	17	15
Strongly disagree	1	1	1	2	1	3
Baccalaureate degree						
Strongly agree	19	26	27	22	24	31
Agree	68	62	60	64	62	56
Don't know	2	3	2	2	2	2
Disagree	10	8	10	12	11	10
Strongly disagree	1	1	1	0	1	1
Graduate/professional degree						
Strongly agree	20	29	31	26	43	40
Agree	70	61	58	53	46	51
Don't know	2	2	4	5	2	2
Disagree	8	7	6	14	8	5
Strongly disagree	0	1	1	2	1	2
Attentive public for science and technology^a						
Strongly agree	17	27	35	28	35	46
Agree	76	62	50	61	48	42
Don't know	0	2	4	1	1	1
Disagree	6	8	10	9	14	7
Strongly disagree	1	1	1	1	2	4

NOTE: Responses are to the question: "Even if it brings no immediate benefits, scientific research which advances the frontiers of knowledge is necessary and should be supported by the Federal Government. Do you strongly agree, agree, disagree, or strongly disagree?"

^aThe attentive public for science and technology contains the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

Appendix table 7-18.

Public attitudes toward federal support of basic scientific research, by general attitudes on science and technology and selected characteristics: 1997
(Percentages)

Characteristic	Disagree	Unsure	Agree	Sample size	Gamma ^a
INDEX OF SCIENTIFIC PROMISE^b					
All adults	18	3	79	2,000	–
Low score on Index of Scientific Promise	37	9	54	241	
Moderate score on Index of Scientific Promise	25	4	71	626	0.54
High score on Index of Scientific Promise	10	1	89	1,133	
Less than high school graduate	25	5	70	421	–
Low score	35	18	47	57	
Moderate score	39	4	57	147	0.51
High score	14	1	85	217	
High school graduate	18	4	78	1,188	–
Low score	41	7	52	152	
Moderate score	23	5	72	379	0.54
High score	10	2	88	657	
Baccalaureate degree	10	2	88	393	–
Low score	21	6	73	33	
Moderate score	14	2	84	100	0.42
High score	7	1	92	260	
INDEX OF SCIENTIFIC RESERVATIONS^c					
All adults	18	3	79	2,000	–
Low score on Index of Scientific Reservations	9	1	90	831	
Moderate score on Index of Scientific Reservations	23	4	73	806	-0.43
High score on Index of Scientific Reservations	27	6	67	363	
Less than high school graduate	25	4	71	421	–
Low score	8	0	92	79	
Moderate score	37	5	58	218	-0.07
High score	16	6	78	122	
High school graduate	18	3	79	1,188	–
Low score	9	2	89	493	
Moderate score	20	4	76	478	-0.47
High score	33	7	60	217	
Baccalaureate degree	10	1	89	393	–
Low score	8	1	91	254	
Moderate score	10	3	87	109	-0.27
High score	21	4	75	24	

^aThe ordinal correlation coefficient gamma is a measure of the bivariate relationship between two ordinal variables. It is equivalent to R^2 for two interval variables. See L.A. Goodman and W.H. Kruskal "Measures of Association for Cross-Classifications," *Journal of the American Statistical Association* Vol. 49 (1954): 732-64; and H.L. Costner, "Criteria for Measures of Association," *American Sociological Review* Vol. 30, No. 3 (1965): 341-53.

^bThe Index of Scientific Promise scores are classified as follows: low = 0-49; moderate = 50-74; and high = 75-100.

^cThe Index of Scientific Reservations scores are classified as follows: low = 0-29; moderate = 30-54; and high = 55+.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-11.

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Appendix table 7-19.
Public confidence in the people running various institutions: 1973-96
 (Percentages)

Institution	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1986	1987	1988	1989	1990	1991	1993	1994	1996
Average^a	30	33	26	29	31	24	26	26	24	27	25	28	26	25	25	29	22	22	23
Medicine	54	60	50	54	51	46	52	45	51	50	46	52	51	46	46	48	39	41	45
Scientific community	37	45	39	43	41	36	41	38	41	44	39	45	39	40	37	41	37	38	39
U.S. Supreme Court	31	33	31	35	35	28	25	30	27	33	30	36	35	34	35	37	31	30	28
Military	32	40	35	39	36	29	28	31	29	36	31	34	34	32	33	60	42	37	37
Education	37	49	31	37	41	28	30	33	29	28	28	35	29	30	27	30	22	25	23
Major companies	29	31	19	22	27	22	27	23	24	30	24	30	25	24	25	20	21	25	23
Organized religion	35	44	24	30	40	31	35	32	28	31	25	29	20	22	23	25	23	24	25
Exec. branch of Fed. Govt.	29	14	13	13	28	12	12	19	13	18	21	18	16	20	23	26	12	11	10
Banks & financial institutions	-	-	32	39	42	33	32	27	24	31	21	27	27	19	18	12	15	18	25
Congress	23	17	13	14	19	13	9	13	10	12	16	16	15	17	15	18	7	8	8
Press	23	26	24	28	25	20	22	18	13	17	18	18	18	17	15	16	11	8	11
TV	18	23	18	19	17	14	16	14	12	13	15	12	14	14	14	14	12	9	10
Organized labor	15	18	10	12	15	11	15	12	8	8	8	10	10	9	11	11	8	10	11
Sample size	1,504	1,484	1,490	1,499	1,530	1,532	1,468	1,506	1,599	989	1,470	1,466	997	1,035	899	1,017	1,057	2,011	1,925

- = not asked

NOTES: Percentages represent those respondents expressing a "great deal of confidence" when asked the following: "I am going to name some institutions in this country. As far as the people running these institutions are concerned, would you say that you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?" Survey was not conducted in 1979 and 1981, and the question was not asked in 1985.

^aAverage does not include banks and financial institutions.

SOURCE: J. A. Davis and T.W. Smith, General Social Surveys, Cumulative Codebook (Chicago: University of Chicago, National Opinion Research Center, annual series).

See figure 7-12.

Science & Engineering Indicators – 1998

Appendix table 7-20.

Public assessments of scientific research, by selected characteristics: 1979-97

Characteristic	1979	1981	1985	1988	1990	1992	1995	1997
Percentages								
All adults								
Benefits strongly outweigh harmful results	46	42	44	57	47	42	43	47
Benefits slightly outweigh harmful results	24	28	24	25	25	31	29	28
Benefits equal harmful results	19	13	13	5	15	11	16	13
Harmful results slightly outweigh benefits	7	12	13	9	10	12	10	8
Harmful results strongly outweigh benefits	4	5	6	4	3	4	3	4
Male								
Benefits strongly outweigh harmful results	51	48	48	59	54	45	47	52
Benefits slightly outweigh harmful results	23	27	23	25	24	30	28	27
Benefits equal harmful results	16	11	10	5	9	9	13	10
Harmful results slightly outweigh benefits	7	10	13	7	9	11	9	7
Harmful results strongly outweigh benefits	3	5	6	4	4	5	4	
Female								
Benefits strongly outweigh harmful results	42	37	40	55	40	40	39	42
Benefits slightly outweigh harmful results	25	28	26	25	26	31	30	29
Benefits equal harmful results	23	16	14	6	20	13	19	15
Harmful results slightly outweigh benefits	6	14	14	10	11	12	10	10
Harmful results strongly outweigh benefits	4	5	6	4	3	4	3	4
Less than high school graduate								
Benefits strongly outweigh harmful results	26	26	20	37	24	24	18	30
Benefits slightly outweigh harmful results	25	23	21	30	25	33	30	28
Benefits equal harmful results	32	25	26	9	30	17	34	21
Harmful results slightly outweigh benefits	12	18	20	17	17	20	14	18
Harmful results strongly outweigh benefits	5	9	13	7	4	7	3	3
High school graduate								
Benefits strongly outweigh harmful results	50	43	47	59	49	41	44	46
Benefits slightly outweigh harmful results	26	31	26	25	27	32	30	30
Benefits equal harmful results	16	10	10	5	11	10	13	13
Harmful results slightly outweigh benefits	5	12	13	7	10	12	10	6
Harmful results strongly outweigh benefits	3	4	4	4	3	5	3	5
Baccalaureate or higher degree								
Benefits strongly outweigh harmful results	69	64	67	80	72	66	67	67
Benefits slightly outweigh harmful results	18	22	23	16	18	22	23	23
Benefits equal harmful results	8	7	2	1	6	8	6	6
Harmful results slightly outweigh benefits	2	4	6	2	2	3	3	3
Harmful results strongly outweigh benefits	3	2	2	1	2	2	1	1
Attentive public for science and technology								
Benefits strongly outweigh harmful results	67	63	59	62	61	48	64	64
Benefits slightly outweigh harmful results	16	20	17	23	19	27	21	19
Benefits equal harmful results	8	5	7	6	10	12	8	6
Harmful results slightly outweigh benefits	4	8	13	6	6	9	3	8
Harmful results strongly outweigh benefits	5	4	4	3	4	4	4	3
Sample size								
All adults	1,635	1,536	2,005	975	2,033	997	2,006	2,000
Male	773	724	950	475	964	464	953	930
Female	862	812	1,054	500	1,070	533	1,053	1,070
Less than high school graduate	465	385	507	259	495	215	418	420
High school graduate	932	886	1,147	546	1,202	579	1,196	1,188
Baccalaureate or higher degree	238	264	349	170	336	203	392	392
Attentive public for science and technology ^a ...	154	381	235	116	229	94	195	288

NOTES: Responses are for the following statements: "People have frequently noted that scientific research has produced both beneficial and harmful consequences. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" Percentages may not total 100 because of rounding.

^aThe attentive public for science and technology contains the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-13.

Science & Engineering Indicators – 1998

Appendix table 7-21.

Public assessments of nuclear power, by selected characteristics: 1985-97

Characteristic	1985	1988	1990	1992	1995	1997
Percentages						
All adults						
Benefits strongly outweigh harmful results	28	18	24	17	21	22
Benefits slightly outweigh harmful results	22	24	23	30	22	23
Benefits equal harmful results	6	11	12	11	14	18
Harmful results slightly outweigh benefits	13	17	13	15	21	17
Harmful results strongly outweigh benefits	31	30	28	27	21	20
Male						
Benefits strongly outweigh harmful results	38	23	31	21	29	28
Benefits slightly outweigh harmful results	22	27	24	34	23	26
Benefits equal harmful results	4	7	8	7	8	13
Harmful results slightly outweigh benefits	9	15	11	10	21	13
Harmful results strongly outweigh benefits	27	28	26	28	19	20
Female						
Benefits strongly outweigh harmful results	19	14	17	14	14	17
Benefits slightly outweigh harmful results	22	21	21	27	21	20
Benefits equal harmful results	8	14	16	14	20	22
Harmful results slightly outweigh benefits	16	19	16	18	23	20
Harmful results strongly outweigh benefits	35	32	30	27	22	21
Less than high school graduate						
Benefits strongly outweigh harmful results	28	15	21	10	15	20
Benefits slightly outweigh harmful results	24	25	21	37	16	17
Benefits equal harmful results	8	17	23	11	25	25
Harmful results slightly outweigh benefits	14	19	13	13	28	21
Harmful results strongly outweigh benefits	26	24	22	29	16	17
High school graduate						
Benefits strongly outweigh harmful results	27	18	23	19	21	22
Benefits slightly outweigh harmful results	21	23	23	26	23	23
Benefits equal harmful results	6	9	9	11	13	16
Harmful results slightly outweigh benefits	13	17	14	16	21	16
Harmful results strongly outweigh benefits	33	33	31	28	23	23
Baccalaureate or higher degree						
Benefits strongly outweigh harmful results	29	22	32	19	28	25
Benefits slightly outweigh harmful results	21	25	23	34	26	26
Benefits equal harmful results	3	7	7	10	8	14
Harmful results slightly outweigh benefits	13	14	13	14	18	17
Harmful results strongly outweigh benefits	3	32	25	23	19	18
Attentive public for science and technology^a						
Benefits strongly outweigh harmful results	35	26	30	24	28	25
Benefits slightly outweigh harmful results	20	24	27	30	24	25
Benefits equal harmful results	1	9	6	10	10	11
Harmful results slightly outweigh benefits	12	16	9	9	22	17
Harmful results strongly outweigh benefits	32	25	28	27	18	22

Appendix table 7-21.

Public assessments of nuclear power, by selected characteristics: 1985-97

Characteristic	1985	1988	1990	1992	1995	1997
Sample size						
All adults	2,005	2,041	2,033	997	2,006	2,000
Male	950	958	964	464	953	930
Female	1,054	1,084	1,070	533	1,053	1,070
Less than high school graduate	507	530	495	215	418	420
High school graduate	1,143	1,158	1,202	579	1,196	1,188
Baccalaureate or higher degree	349	353	336	203	392	392
Attentive public for science and technology	235	233	229	94	195	288

NOTES: In 1985, 1988, 1990, 1995 and 1997, the question was worded, "In the current debate over the use of nuclear reactors to generate electricity, there is a broad agreement that there are some risks and some benefits associated with nuclear power. In your opinion, have the benefits associated with nuclear power outweighed the harmful results, or have the harmful results associated with nuclear power been greater than its benefits? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" In 1992, the question was worded, "In the current debate over the use of nuclear reactors to generate electricity, there is broad agreement that there are some costs and some benefits associated with nuclear power. In your opinion, are the costs associated with nuclear power greater than the benefits, or are the benefits associated with nuclear power greater than the costs? Would you say that the benefits have substantially exceeded the costs or only slightly exceeded the costs? Would you say that the costs substantially exceeded the benefits or only slightly exceed the benefits?" Percentages may not total 100 because of rounding.

^aThe attentive public for science and technology contains the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-14.

Appendix table 7-22.

Public assessments of genetic engineering, by selected characteristics: 1985-97

Characteristic	1985	1990	1995	1997
Percentages				
All adults				
Benefits strongly outweigh harmful results	23	20	21	19
Benefits slightly outweigh harmful results	26	27	22	23
Benefits equal harmful results	12	16	22	22
Harmful results slightly outweigh benefits	14	19	23	20
Harmful results strongly outweigh benefits ...	25	18	12	16
Male				
Benefits strongly outweigh harmful results	26	21	24	23
Benefits slightly outweigh harmful results	28	31	22	26
Benefits equal harmful results	11	14	21	20
Harmful results slightly outweigh benefits	13	18	22	17
Harmful results strongly outweigh benefits ...	22	16	10	14
Female				
Benefits strongly outweigh harmful results	19	19	18	16
Benefits slightly outweigh harmful results	25	23	22	21
Benefits equal harmful results	14	17	22	23
Harmful results slightly outweigh benefits	15	21	23	22
Harmful results strongly outweigh benefits ...	27	20	15	18
Less than high school graduate				
Benefits strongly outweigh harmful results	19	16	10	15
Benefits slightly outweigh harmful results	29	27	19	18
Benefits equal harmful results	16	25	30	23
Harmful results slightly outweigh benefits	12	17	29	30
Harmful results strongly outweigh benefits ...	24	15	13	14
High school graduate				
Benefits strongly outweigh harmful results	21	19	20	18
Benefits slightly outweigh harmful results	24	27	21	24
Benefits equal harmful results	13	12	21	21
Harmful results slightly outweigh benefits	15	21	23	18
Harmful results strongly outweigh benefits ...	27	21	14	19
Baccalaureate or higher degree				
Benefits strongly outweigh harmful results	33	29	35	27
Benefits slightly outweigh harmful results	29	28	30	28
Benefits equal harmful results	7	15	16	21
Harmful results slightly outweigh benefits	13	15	14	14
Harmful results strongly outweigh benefits ...	18	13	6	10
Attentive public for science and technology^a				
Benefits strongly outweigh harmful results	37	32	42	36
Benefits slightly outweigh harmful results	28	30	22	24
Benefits equal harmful results	9	9	16	13
Harmful results slightly outweigh benefits	12	12	13	16
Harmful results strongly outweigh benefits ...	14	17	7	11
Attentive public for medical research				
Benefits strongly outweigh harmful results	29	31	34	27
Benefits slightly outweigh harmful results	24	27	21	25
Benefits equal harmful results	12	12	17	18
Harmful results slightly outweigh benefits	11	17	18	18
Harmful results strongly outweigh benefits ...	24	13	9	12

Appendix table 7-22.

Public assessments of genetic engineering, by selected characteristics: 1985-97

Characteristic	1985	1990	1995	1997
Sample size				
All adults	2,005	2,033	2,006	2,000
Male	950	964	953	930
Female	1,054	1,070	1,053	1,070
Less than high school graduate	507	495	418	420
High school graduate	1,143	1,179	1,196	1,188
Baccalaureate or higher degree	349	359	392	392
Attentive public for science and technology	235	229	195	288
Attentive public for medical research	349	337	310	377

NOTES: In 1985, the question was worded, "Some persons have argued that the creation of new life forms through genetic engineering constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, are the risks of genetic engineering greater than the benefits, or are the benefits of genetic engineering research greater than the risks? Would you say that the benefits are substantially greater than the risks, or only slightly greater than the risks? Would you say that the risks are substantially greater than the benefits or only slightly greater than the benefits?" In 1990, the question was worded, "Some persons have argued that the creation of new life forms through genetic engineering research constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, are the risks of genetic engineering research greater than its benefits, or are the benefits of genetic engineering research greater than its risks? Would you say that the benefits have substantially exceeded the risks or only slightly exceeded the risks? Would you say that the risks have substantially exceeded the benefits or only slightly exceeded the benefits?" In 1995, the question was worded, "Some persons have argued that the creation of new life forms through genetic engineering research constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, have the benefits of genetic engineering research outweighed the harmful results, or have the harmful results of genetic engineering research been greater than its benefits? Would you say that balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" In 1997, half of the respondents were asked the question used in 1995. The other half were asked: "Some persons have argued that the modification of existing life forms through genetic engineering research constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, have the benefits of engineering research outweighed the harmful results, or have the harmful results of genetic engineering research been greater than its benefits? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" Percentages may not total 100 because of rounding.

^aThe attentive public for science and technology contains the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-15.

Appendix table 7-23.

Public assessments of space exploration, by selected characteristics: 1985-97

Characteristic	1985	1988	1990	1992	1995	1997
Percentages						
All adults						
Benefits strongly outweigh costs	27	22	18	17	22	24
Benefits slightly outweigh costs	27	25	25	26	24	24
Benefits equal costs	7	9	9	9	8	10
Costs slightly outweigh benefits	15	18	17	22	17	17
Costs strongly outweigh benefits	24	26	31	26	28	25
Male						
Benefits strongly outweigh costs	33	28	23	33	28	31
Benefits slightly outweigh costs	31	27	26	26	25	25
Benefits equal costs	6	10	8	8	6	8
Costs slightly outweigh benefits	12	13	16	16	16	15
Costs strongly outweigh benefits	18	22	27	27	24	21
Female						
Benefits strongly outweigh costs	21	16	14	11	17	18
Benefits slightly outweigh costs	24	23	24	25	23	23
Benefits equal costs	8	9	10	11	10	12
Costs slightly outweigh benefits	17	23	17	27	18	18
Costs strongly outweigh benefits	30	29	35	26	32	29
Less than high school graduate						
Benefits strongly outweigh costs	22	16	15	14	14	18
Benefits slightly outweigh costs	25	26	20	29	20	21
Benefits equal costs	10	9	17	12	13	16
Costs slightly outweigh benefits	17	21	16	24	21	24
Costs strongly outweigh benefits	26	29	32	21	31	21
High school graduate						
Benefits strongly outweigh costs	26	21	17	15	23	23
Benefits slightly outweigh costs	28	25	25	25	24	23
Benefits equal costs	6	9	7	9	6	9
Costs slightly outweigh benefits	14	18	17	23	17	16
Costs strongly outweigh benefits	26	27	34	28	30	29
Baccalaureate or higher degree						
Benefits strongly outweigh costs	36	33	27	22	32	31
Benefits slightly outweigh costs	28	26	28	26	27	29
Benefits equal costs	6	10	7	6	8	8
Costs slightly outweigh benefits	13	15	16	18	14	12
Costs strongly outweigh benefits	17	16	22	28	20	20
Attentive public for science and technology^a						
Benefits strongly outweigh costs	39	38	26	28	32	44
Benefits slightly outweigh costs	27	28	33	26	25	22
Benefits equal costs	7	6	4	11	7	6
Costs slightly outweigh benefits	13	10	14	20	16	11
Costs strongly outweigh benefits	14	21	23	15	20	17
Attentive public for space exploration						
Benefits strongly outweigh costs	49	46	36	38	52	57
Benefits slightly outweigh costs	25	30	36	44	23	19
Benefits equal costs	8	4	3	3	4	6
Costs slightly outweigh benefits	11	7	11	6	12	10
Costs strongly outweigh benefits	7	13	14	9	9	8

Appendix table 7-23.

Public assessments of space exploration, by selected characteristics: 1985-97

Characteristic	1985	1988	1990	1992	1995	1997
Sample size						
All adults	2,005	2,041	2,033	1,004	2,006	2000
Male	950	958	964	486	953	930
Female	1,054	1,084	1,070	533	1,053	1070
Less than high school graduate	507	530	495	215	418	420
High school graduate	1,147	1,158	1,202	623	1,196	1188
Baccalaureate or higher degree	349	353	336	203	392	392
Attentive public for science and technology	235	233	229	105	195	288
Attentive public for space exploration	184	163	123	51	99	168

NOTES: Responses are to the following questions: "Many current issues in science and technology may be viewed as a judgment of relative benefits. Thinking first about the space program, some persons have argued that the costs of the space program may have exceeded its benefits, while other people have argued that the benefits of space exploration have exceeded its costs. In your opinion, have the costs of space exploration exceeded its benefits, or have the benefits of space exploration exceeded its costs? Would you say that the benefits have substantially exceeded the costs, or only slightly exceeded the costs? Would you say that the costs have substantially exceeded the benefits or only slightly exceeded the benefits?" Percentages may not total 100 because of rounding.

^aThe attentive public for science and technology contains the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-16.

Appendix table 7-24.
Public use of various sources of information, by selected characteristics: 1997
(Percentages)

Characteristic	Read news-paper every day	Read at least 1 news maga-zine regularly	Watch TV news 1+hr/day	Listen to radio news 1+hr/day	Public library		Read at least 1 science maga-zine/ month	Watch science TV programs/ month	Visit science museums 1+/year	Purchase 1+ books/yr		World Wide Web 1+ hrs/wk	Sample size
					1 visit/yr	5 visits/yr				Any	Science		
All adults	46	14	68	28	70	45	15	53	60	61	31	15	2,000
Sex													
Male	49	15	63	29	68	41	20	56	63	55	32	20	930
Female	43	14	72	27	72	48	11	50	59	66	29	10	1,070
Formal education													
Less than high school	41	6	80	31	52	31	9	45	34	33	9	4	420
High school graduate	44	14	67	27	71	43	14	55	64	62	31	11	1,188
Baccalaureate degree	53	22	59	27	87	68	25	57	78	85	51	35	257
Grad./professional degree	59	27	54	27	84	63	29	52	75	87	56	37	135
Science/mathematics education ^a													
Low	43	10	74	26	59	33	9	48	48	48	18	4	1,112
Middle	47	18	65	34	82	57	14	56	75	70	38	19	509
High	53	22	54	27	85	63	33	62	78	86	58	38	379
Attentiveness to science & tech. ^b													
Attentive public	79	25	70	27	78	60	41	64	68	75	44	30	288
Interested public	38	14	68	28	74	48	13	56	66	65	35	15	918
Residual public	42	11	68	32	62	35	7	44	51	51	20	9	794
Access to cable/satellite TV													
Have cable TV	49	15	68	27	72	45	15	57	62	62	31	17	1,331
Have satellite dish	52	10	64	20	50	29	21	56	55	60	32	17	97
Have neither ^c	35	13	69	33	69	47	14	42	57	58	29	10	572

NOTE: Responses are to the statements: "How often do you read a newspaper: every day, a few times a week, once a week, or less than once a week?"; "Are there any magazines that you read regularly, that is, most of the time? What magazine would that be?"; "Altogether, on an average day, about how many hours would you say that you watch television? About how many of those hours are news reports or news shows?"; "Now, let me ask you about your use of museums, zoos, and similar institutions. I am going to read you a short list of places and ask you to tell me how many times you visited each type of place during the last year, that is, the last 12 months. If you did not visit any given place, just say none. A natural history museum—how many times did you visit it during the last year? A zoo or an aquarium—how many times did you visit it during the last year? A science or technology museum—how many times did you visit it during the last year? A public library—how many times did you visit it during the last year?"; "Do you watch any television shows that focus primarily on science or nature? Which science or nature show do you watch most often? About how many times a month do you watch this show?"; and "On an average day, about how many hours would you say that you listen to a radio? About how many of those hours are news reports or news shows?"

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

^cThis category includes 79 respondents who reported that they did not watch any television.

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figure 7-17.

Appendix table 7-25.
Public use of information on an annual basis, by selected characteristics: 1997

Characteristic	Hours/year watching/listening to				Copies read/year			Visits/year		Number borrowed/year		Sample size	
	Total TV	TV news	Science TV	Total radio	Radio news	News-papers	News-magazines	Science magazines	Science museum	Public library	Books		Video-tapes
All adults	1,075	432	72	944	228	196	3.0	1.7	2.2	11.0	12.1	2.0	2,000
Sex													
Male	992	387	82	986	262	206	2.8	2.5	2.0	9.2	7.7	1.3	930
Female	1,147	471	62	906	198	186	2.8	1.1	2.1	11.8	15.9	2.0	1,070
Formal education													
Less than high school	1,495	553	48	904	207	178	1.7	1.0	1.0	7.6	5.5	0.5	420
High school graduate	1,040	426	81	1,030	233	192	2.5	1.5	2.0	10.0	11.6	1.4	1,188
Baccalaureate degree	743	314	72	798	234	219	4.0	3.0	3.4	16.8	20.0	3.0	257
Grad./professional degree	718	335	59	584	232	238	6.2	4.0	3.3	15.9	21.1	2.2	135
Science/math education ^a													
Low	1,235	489	63	887	208	185	2.0	1.0	2.0	7.7	8.8	1.1	1,112
Middle	973	394	86	1,138	259	200	3.3	1.5	2.9	13.2	13.3	1.6	509
High	744	317	79	850	243	220	4.6	4.1	3.3	15.3	19.9	3.0	379
Attentiveness to science and technology ^b													
Attentive public	1,093	500	102	957	254	298	6.5	5.2	3.1	16.7	18.0	2.3	288
Interested public	1,044	443	84	931	238	171	2.5	1.4	2.5	11.1	13.0	1.5	918
Residual public	1,105	395	46	954	205	186	1.8	0.9	1.7	8.0	8.8	1.0	794
Access to cable/satellite TV													
Have cable TV	1,149	459	84	955	217	209	3.0	1.7	2.0	10.6	11.5	1.0	1,331
Have satellite dish	1,154	373	109	1,050	177	218	1.4	3.2	2.0	7.5	9.6	1.4	97
Have neither ^c	889	379	35	899	261	160	2.3	1.7	2.2	11.0	13.9	2.3	572

NOTE: Responses are to the statements: "Altogether, on an average day, about how many hours would you say that you watch television? About how many of those hours are news reports or news shows?" "Now, let me ask you about your use of museums, zoos, and similar institutions. I am going to read you a short list of places and ask you to tell me how many times you visited each type of place during the last year, that is, the last 12 months. If you did not visit any given place, just say none. A natural history museum—how many times did you visit it during the last year? A zoo or an aquarium—how many times did you visit it during the last year? A science or technology museum—how many times did you visit it during the last year? A public library—how many times did you visit it during the last year?"; "During the last 12 months, did you borrow any books from the public library? (if yes); About how many books did you borrow during the last year?"; "During the last 12 months, did you borrow any videotapes from the public library? (if yes); About how many videotapes did you borrow during the last year?"; "Do you watch any television shows that focus primarily on science or nature? Which science or nature show do you watch most often? About how many times a month do you watch this show?"; and "On an average day, about how many hours would you say that you listen to a radio? About how many of those hours are news reports or news shows?"

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

^cThis category includes 79 respondents who reported that they did not watch any television.

SOURCES: J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations prepared for the National Science Foundation, Science Resources Studies Division.

See figures 7-18 and 7-19.

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Appendix table 7-26.

Public's access to computers from work and home, by selected characteristics: 1983-97

Characteristic	1983	1985	1988	1990	1995	1997
Percentages						
All adults						
No access	70	66	62	58	46	43
Access from work or home	27	28	29	30	33	34
Access from work and home	3	6	9	12	21	23
Male						
No access	68	62	59	55	41	42
Access from work or home	28	30	30	30	34	32
Access from work and home	4	8	11	15	25	26
Female						
No access	72	69	66	61	50	44
Access from work or home	26	26	28	31	33	36
Access from work and home	2	5	6	8	17	20
Less than high school graduate						
No access	94	87	92	85	80	79
Access from work or home	6	13	8	14	18	18
Access from work and home	0	0	0	1	2	3
High school graduate						
No access	66	65	58	55	42	40
Access from work or home	31	30	35	34	38	39
Access from work and home	3	5	7	11	20	21
Baccalaureate or higher degree						
No access	47	40	33	29	18	12
Access from work or home	45	43	41	41	36	38
Access from work and home	8	17	26	30	46	50
Attentive public for science and technology^a						
No access	61	56	50	44	31	34
Access from work or home	29	33	35	31	31	36
Access from work and home	10	11	15	25	38	30
Sample size						
All adults	631	2,005	2,041	2,033	2,006	2,000
Male	775	950	958	964	953	930
Female	856	1,054	1,084	1,070	1,053	1,070
Less than high school graduate	404	507	530	495	418	420
High school graduate	941	1,147	1,158	1,202	1,196	1,188
Baccalaureate or higher degree	282	349	353	336	392	392
Attentive public for science and technology	208	235	233	229	195	288

NOTE: In 1985, 1988, 1990, 1995 and 1997, the question was worded, "Do you use a computer in your work? About how many hours do you personally use your work computer in a typical week? Do you presently have a home computer in your household? About how many hours do you personally use your home computer in a typical week?" In 1983, the question was worded, "Do you use computers or word processing equipment in your work?..."

^aThe attentive public for science and technology contains the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

SOURCES: J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook* (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

See figures 7-20 and 8-24.

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Appendix table 7-27.
Public's access to and use of computers at home and work, by selected characteristics: 1997
(Percentages)

Characteristic	Use com- puter in work	Have com- puter at home	Com- puter at home & work	Com- puter at home or work	No com- puter	Home computer				Work computer				Use (hours/year)	
						Modem	On-line service	CD- ROM	E-mail address	Access WWW	E-mail address	Access WWW	Work computer	Home computer	On-line hrs/year
All adults	38	43	23	57	43	33	18	29	18	16	16	14	369	130	29
Sex															
Male	41	44	26	58	42	35	21	31	20	20	18	18	371	161	37
Female	35	41	20	56	44	33	15	26	15	13	14	11	368	102	22
Formal education															
Less than high school	6	19	3	21	79	13	1	8	6	5	1	2	31	51	4
High school graduate	39	42	21	60	40	31	17	29	17	14	12	11	390	119	26
Baccalaureate degree	67	67	47	87	13	54	35	49	31	32	40	36	695	237	60
Grad./professional degree ..	68	76	54	88	12	62	41	55	37	38	43	45	612	263	69
Science/math education^a															
Low	22	29	12	40	60	20	9	17	8	7	5	5	221	71	12
Middle	51	53	32	72	28	42	23	38	25	22	22	18	439	162	31
High	64	68	44	88	12	56	37	51	36	36	38	35	709	257	74
Attentiveness to science and technology^b															
Attentive public	42	54	30	66	34	47	26	40	30	30	23	23	465	225	55
Interested public	42	46	26	63	37	34	20	31	18	17	17	16	398	152	32
Residual public	31	34	18	48	52	26	13	22	13	10	12	9	301	69	16
Access to cable/satellite TV															
Have cable TV	41	46	25	61	39	36	20	32	20	18	17	15	401	143	32
Have satellite dish	39	45	21	63	37	33	17	31	18	19	12	10	308	134	39
Have neither ^c	30	35	17	47	53	24	12	21	12	11	12	13	306	97	20

WWW = World Wide Web

NOTE: Responses are to the statements: "Do you use a computer in your work? About how many hours do you personally use your work computer in a typical week? Do you have an e-mail address for use at work? Do you have access to the World Wide Web through your work computer? Do you presently have a home computer in your household? About how many hours do you personally use your home computer in a typical week? Do you have a CD-ROM reader in your home computer? Do you have a modem in your home computer? Do you presently subscribe to any network service like CompuServe, Prodigy, America Online, or any other dial-in-service? About how many hours a month do you use your dial-in or network service? Do you have an e-mail address that you use with your home computer? Do you ever access the World Wide Web through your home computer?"

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses; and as "low" if they took five or fewer.

^bThe attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

^cThis category includes 79 respondents who reported that they did not watch any television.

SOURCES: J. D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979-1997, Integrated Codebook (Chicago: Chicago Academy of Sciences, International Center for the Advancement of Scientific Literacy, 1997); and unpublished tabulations.

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